Valganciclovir hydrochloride

Cat. No.: HY-A0032A

CAS No.: 175865-59-5

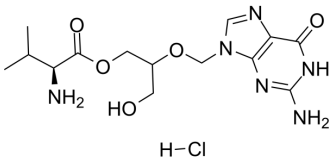
Molecular Formula: $C_{14}H_{23}ClN_6O_5$

Molecular Weight: 390.82

Target: CMV

Pathway: Anti-infection

Storage: 4°C, sealed storage, away from moisture
* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 50 mg/mL (127.94 mM; Need ultrasonic)
H_2O : ≥ 50 mg/mL (127.94 mM)
* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	2.5587 mL	12.7936 mL	25.5872 mL
5 mM	0.5117 mL	2.5587 mL	5.1174 mL
10 mM	0.2559 mL	1.2794 mL	2.5587 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: PBS
   Solubility: 100 mg/mL (255.87 mM); Clear solution; Need ultrasonic
2. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (6.40 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (6.40 mM); Clear solution
4. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (6.40 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Valganciclovir hydrochloride is an orally active antiviral agent. Valganciclovir hydrochloride can inhibit the growth of adenoviruses and have a protective effect on immunosuppressed hamsters. Valganciclovir hydrochloride can be used for the research of Cytomegalovirus[1][2][3].

In Vitro

Valganciclovir (500 μM, 5-7 days) inhibits the growth of human adenoviruses (Ads) in A549 cells[1].Valganciclovir (0.003-10

mM, 10 min) with ganciclovir (HY-13637) inhibits the uptake of glycylsarcosine in Caco-2 cells[2].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Viability Assay[1]

Cell Line:	A549 cells
Concentration:	500 μM
Incubation Time:	5 days, 7days
Result:	Showed EC_{50} values ranged from 120.5 μM (Ad4) to 244.4 μM (Ad6). Showed IC_{50} values was calculated to be 11.74 mM at 7 days post-infection.

In Vivo

Valganciclovir (200 mg/kg, Oral gavage, twice daily for16 days) protects immunosuppressed hamsters challenged intravenously with adenovirus type 5 (Ad5)[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Immunosuppressed hamsters[1]
Dosage:	200 mg/kg
Administration:	Oral gavage (p.o.)
Result:	Resulted in significantly smaller magnitude of weight loss for all groups. Reduced the liver pathology.

REFERENCES

[1]. Toth K, et al. Valganciclovir inhibits human adenovirus replication and pathology in permissive immunosuppressed female and male Syrian hamsters [J]. Viruses, 2015, 7(3): 1409-1428.

[2]. Sugawara M, et al. Transport of valganciclovir, a ganciclovir prodrug, via peptide transporters PEPT1 and PEPT2 [J]. Journal of pharmaceutical sciences, 2000, 89(6): 781-789.

[3]. Cvetkovic R S, et al. Valganciclovir: a review of its use in the management of CMV infection and disease in immunocompromised patients [J]. Drugs, 2005, 65: 859-878.

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